



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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EPA Region 5 Records Ctr.



226771

July 12, 2000

OFFICE OF
AIR AND RADIATION

MEMORANDUM

SUBJECT: Summary of Streeterville Scan

FROM: Roger Shura

Roger Shura

TO: Larry Jensen/USEPA
Region 5

Attached is a summary of the Las Vegas Scanner Van Survey which was performed in the Streeterville area from June 20-22, 2000.

Please contact Mark Sells at (702) 798-2336 or myself at (702) 798-2450 if you need additional information concerning the results of the Streeterville scan.

Attachment

cc: Richard Karl /USEPA /Region 5
Fredrick Micke /USEPA /Region 5
Verneta Simon /USEPA /Region 5

The gamma radiation scanning survey of the Chicago Streeterville area was performed June 20 through June 22, 2000. The streets scanned are delineated on the attached map. The overall procedure is outlined in the attached, "Quality Assurance Project Plan, Scanner Van Survey, Chicago Illinois, Streeterville Area."

Prior to the actual scan, background gamma levels were obtained by driving through Streeterville and obtaining reference readings from open areas not believed to be contaminated and from brick and stone buildings. Normally a background would be taken in an adjacent area, not believed to be contaminated but having essentially the same characteristics. For an urban area like Streeterville it was too difficult to find such an area so it was decided to use the lowest measured values in the scan as background levels and then look for deviations from these. Brick and stone buildings were part of the reference values since these contain natural radioactivity that is not considered contamination.

Once background reference levels were established, the streets shown on the accompanying map were driven. In addition to streets, two parking lots were entered and scanned. These were (1) at west end of the block bounded by Illinois Street, McClurg Court, Grand Avenue and Peshtigo Court and (2) at the east end of the block bounded by Grand Avenue, McClurg Court, Ohio Street and Columbus Drive. In some cases, limited foot surveys were conducted to further explore anomalous readings and investigate known areas of contamination.

Most of the areas deviating from background appeared to be the facades of buildings made with brick, granite and other stone. The anomalous areas, which should not be designated contaminated until further followup investigations are conducted, include

- St. Clair Street, between Illinois Street and Grand Avenue. This is to the east of the Lindsay Light Building (161 East Grand). A foot survey indicated stronger emissions from the street itself.
- The alley to the west of St. Clair Street, between Illinois Street and Grand Avenue. This is at the rear of the Lindsay Light Building. Foot surveys seem to indicate elevated material was between or below the pavers composing the alley, where the blacktop was removed. Sodium iodide spectrometer readings indicated thorium materials. There was not time to do a full investigation so the pavers themselves may be the source of elevated readings. The readings have not been established to be due to contamination at this time.
- The empty parking lot at the east end of the block bounded by Grand Avenue, McClurg Court and Ohio Street. This was known to be contaminated from a previous survey by the land owner. No anomalous readings were seen from any of the adjacent streets by the Scanner van but a driveover of the property confirmed their presence, as did a foot survey. It was not unreasonable that street surveys by the Scanner van did not show these contaminated areas since the foot survey showed gamma levels dropped to background within about 3 feet from a strong hot spot.

- The northwest end of Navy Pier. A spike in the readings occurred just at the corner of the building. A survey with a portable sodium iodide spectrometer indicated thorium materials. There was not time to do a full survey of the area so it could not be determined if the spike was due to building materials or was due to materials inside the building, under the sidewalk or under the street. Moreover, it could not be determined if the spike was due to natural radioactive materials or was due to actual contamination.

The North Columbus Drive Superfund Removal Action site was not seen by the Scanner van since the cleanup was essentially finished and little, if any, contamination remained at the site.

The Null Hypothesis (that detectable contamination is not present) of our Data Quality Objectives was not confirmed. Anomalies were detected that may or may not indicate contamination. The limitations of varying distances to deposits of radioactive material, the scanning region (the detectors look horizontally and do not look directly below the van), and the diminishing strength of gamma emissions due to distance and possible source attenuation were very profound during this scan.